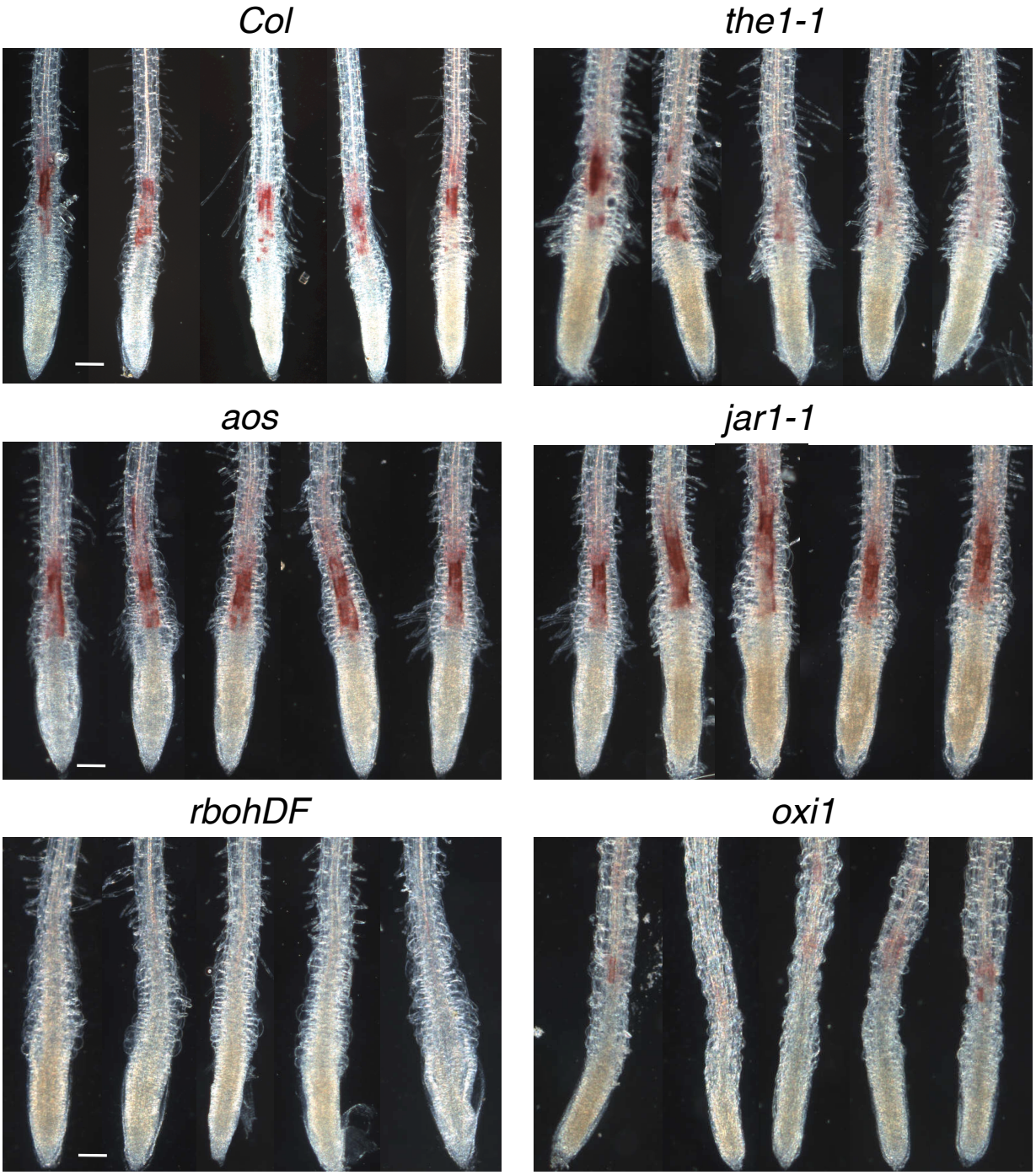
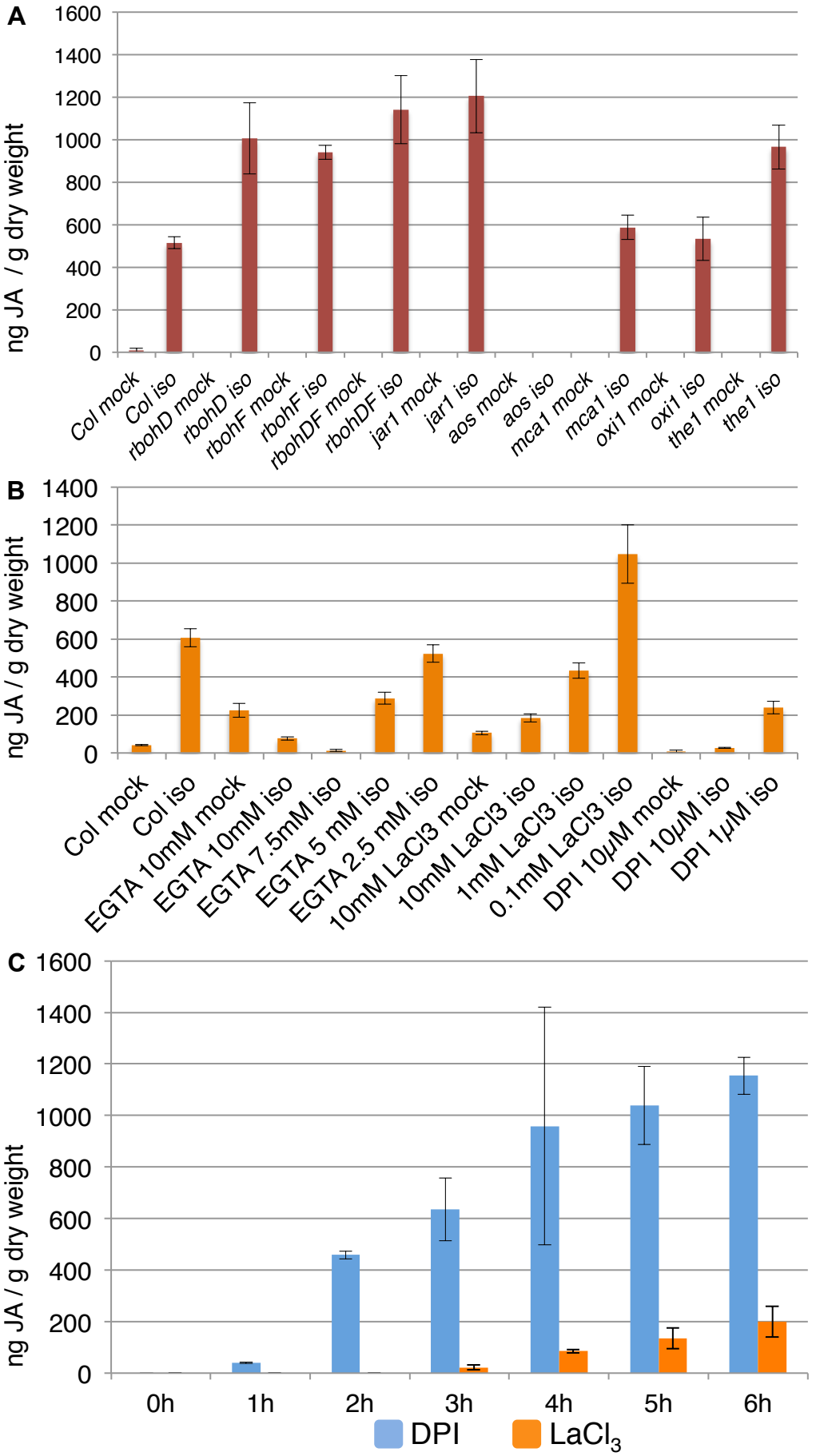
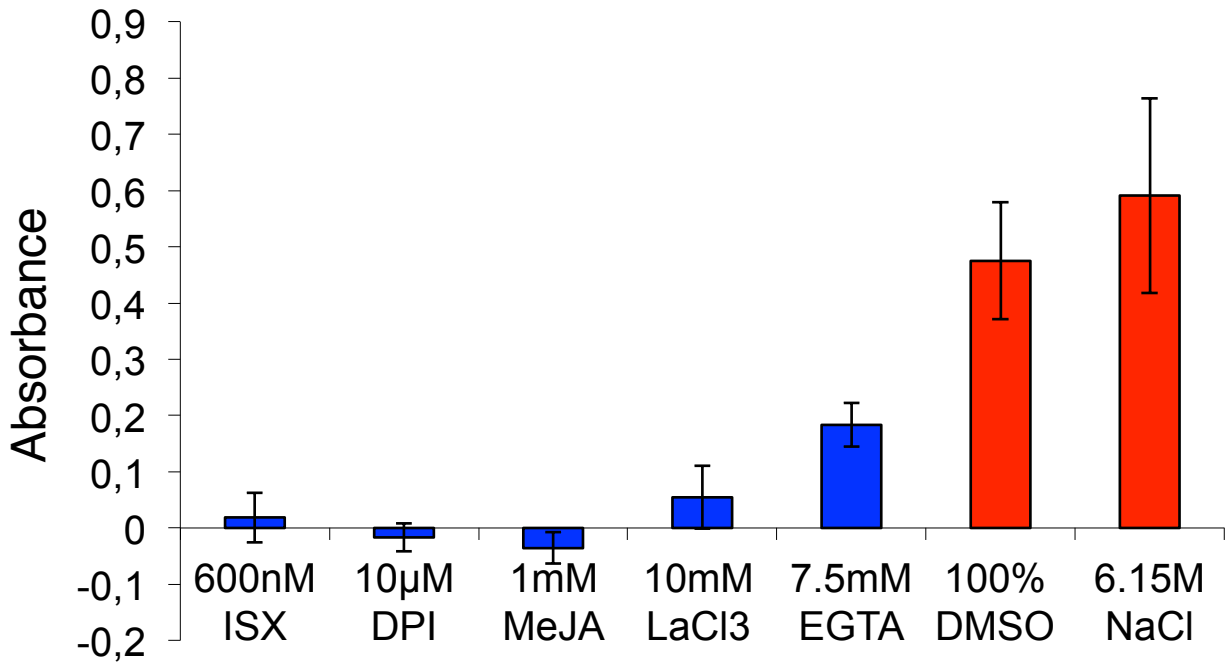


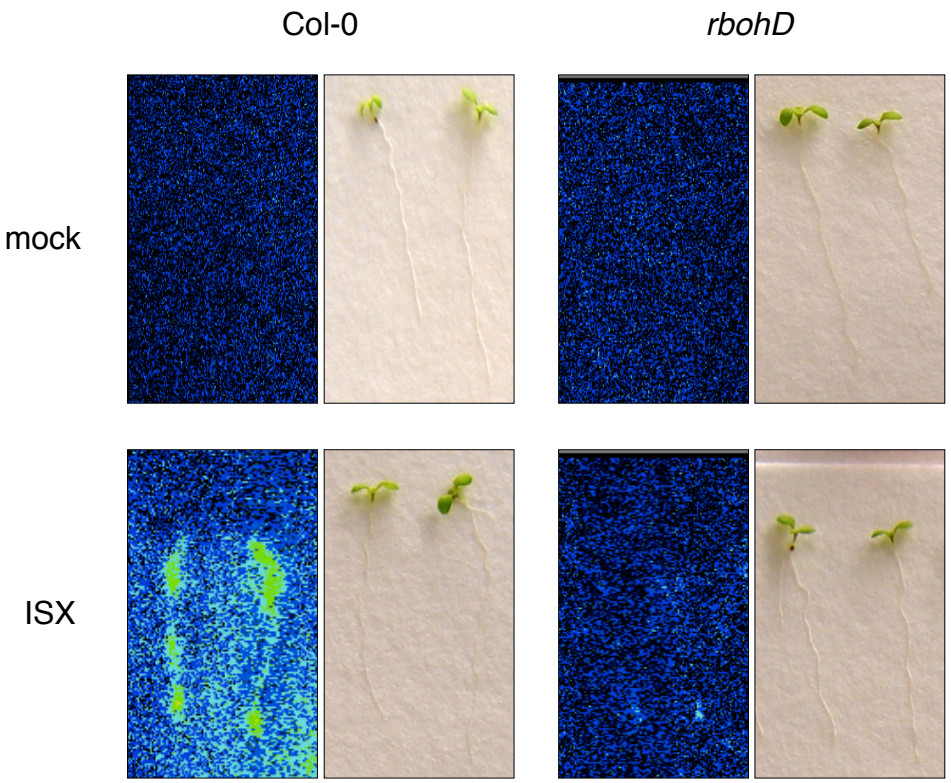
Supplemental Figure 1: Lignin deposition in Col-0 and mutant *Arabidopsis* seedlings illustrating the variability observed
Dark field images of primary root tips stained with phloroglucinol for lignin deposition after isoxaben treatment for 12h. Genotypes of seedlings are shown above pictures;
scale bars: 200µm



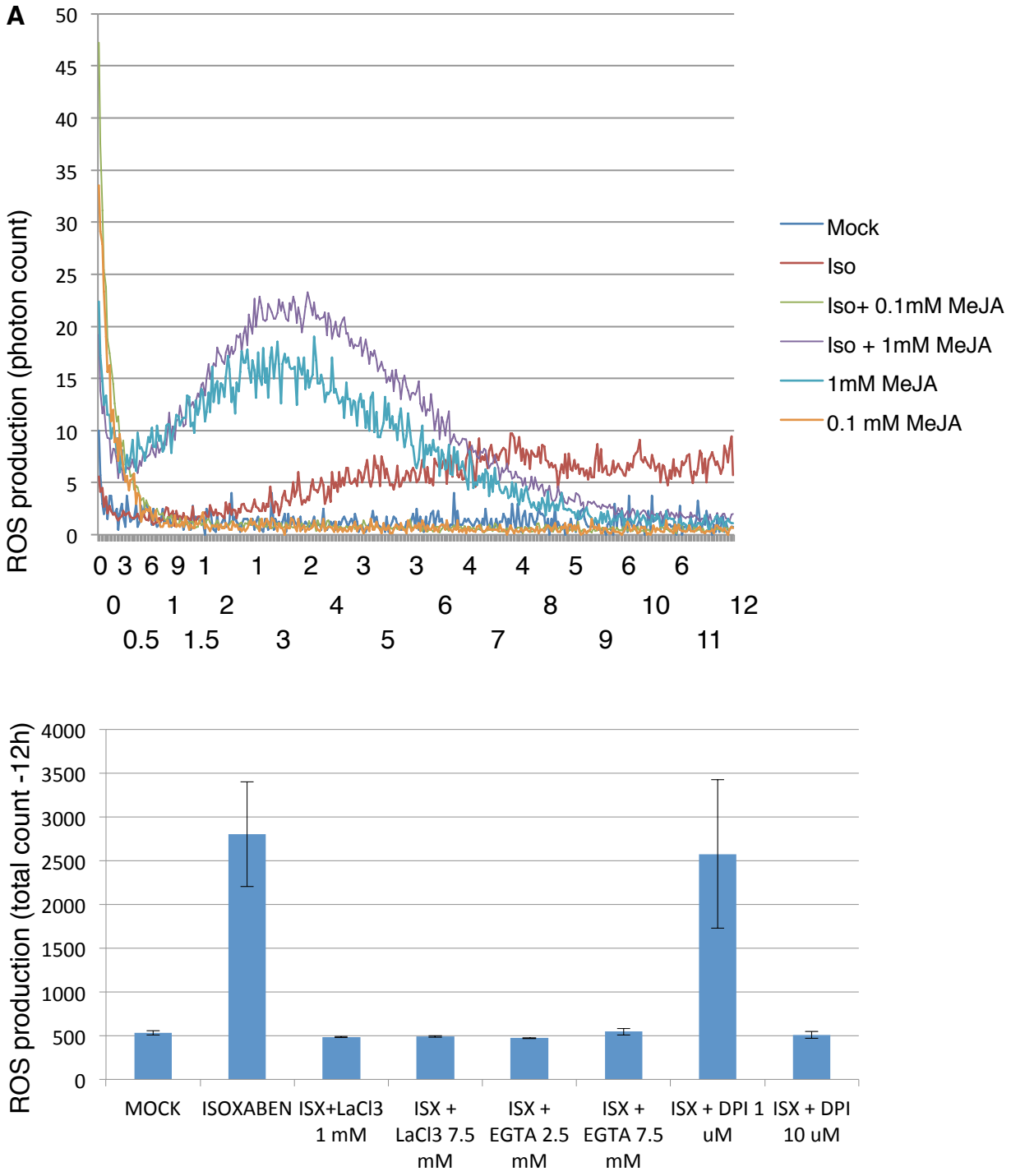
Supplemental Figure 2: Quantification of jasmonic acid in mock or isoxaben treated Col-0 and mutant seedlings **A** or treated with chemicals affecting, ROS and Ca^{2+} signaling **B,C**. Seedlings were treated for 12h; X-axis shows genotypes **A** or treatments **B**. Y-axis: JA concentration in ng/g dryweight. **C** shows the effect of delaying addition of DPI (10μM, light blue) or $LaCl_3$ (10mM, orange) (relative to isoxaben) on JA accumulation in Col-0 seedlings treated. The X-axis shows length of delay relative to start of isoxaben treatment in h.



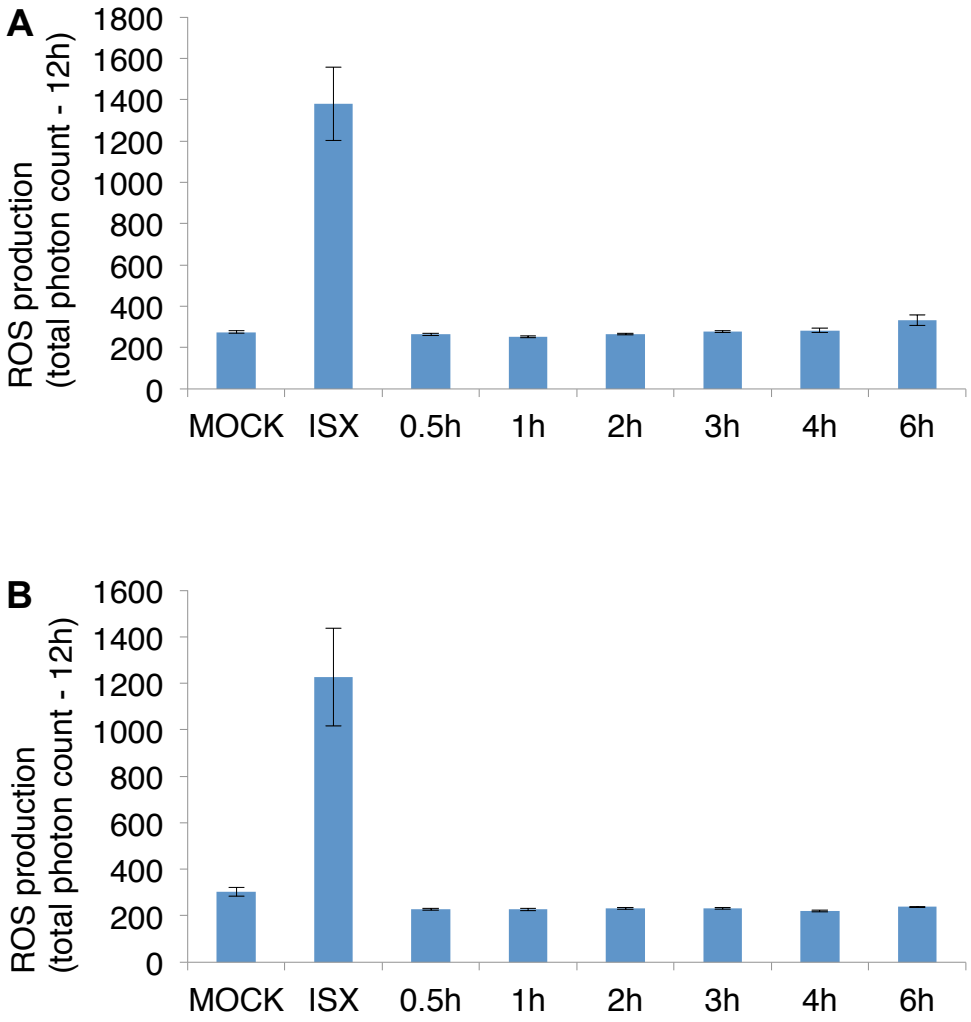
Supplemental Figure 3: Evans blue Stain of Col-0 seedlings treated with different chemicals. The X-axis shows the different treatments performed. Seedlings were either treated for 12h (ISX, DPI, MeJA, $LaCl_3$, EGTA) or 15 minutes (DMSO, NaCl; positive controls for cell death in red) before measurements were performed. Y-axis shows absorbance at 600nM.



Supplemental Figure 4: ROS detection in Col-0 and *rbohd* seedlings
Seedlings were grown in liquid culture for 6 days and then imbibed in ROS assay solution (L-012, a luminol derivative) for 12h while either being mock or isoxaben-treated in parallel. 8 seedlings per genotype and treatment were characterized in two independent experiments. Pictures correspond to 12h of photon count.



Supplemental Figure 5: ROS Quantification in Col-0 seedlings treated with substances affecting ROS, JA and Calcium signaling. **A** ROS production based on photon count over 12h in response to different treatments, X-axis time in hours, Y-axis ROS production indicated by photon count. **B** Total photon count after 12h in Col-0 seedlings; X-axis treatment types; Y-axis ROS production indicated by total photon count after 12h.



Supplemental Figure 6: ROS quantification in Col-0 seedlings treated with isoxaben and calcium antagonists. **A** 7.5 mM EGTA; **B** 10mM $LaCl_3$; Y-axis shows total photon count after 12h, X-axis shows time points when antagonists were addded.